

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. R5-2006-XXX  
NPDES NO. CA0083046  
WASTE DISCHARGE REQUIREMENTS  
FOR  
THE VENDO COMPANY  
GROUNDWATER REMEDIATION SYSTEM  
FRESNO COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Board) finds that:

1. The Vendo Company (hereafter Discharger), a Missouri corporation, submitted a Report of Waste Discharge (RWD) on 27 April 2004, and applied to renew its permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES) from the Phase III Ground Water Remediation System (GWRS) in Fresno.
2. The GWRS is within the Pinedale area of Fresno at 7209 North Ingram Avenue (hereafter site), in Section 32, T12S, R20E, MDB&M, as shown in Attachment A, a part of this Order. The site covers approximately 36 acres and has been owned and operated by the Discharger since 1963 when it purchased the site from the Vendorlator Company. The Discharger manufactures vending machines. The Discharger operates a groundwater collection, treatment and disposal system. Treated groundwater is discharged to Bullard Canal, a water of the United States and a tributary to the San Joaquin River at the points latitude 36°50'14"N and longitude 119°48'8"W. Bullard Canal is owned and operated by the Fresno Irrigation District (FID).
3. Waste Discharge Requirements (WDRs) Order No. 99-012 (NPDES permit No. CA0083046) was adopted on 30 April 1999 for discharge of treated groundwater from the GWRS to the FID Bullard Canal.
4. Soils beneath the site are generally described as sandy silts and silty sands, with small clay lenses. Groundwater beneath the site is about 120 feet below ground surface (bgs) and moves southwesterly.
5. The site is part of a 500-acre tract (tract) that has been used over the last 80 years as a lumber mill, warehouse, and military base (Camp Pinedale). Activities conducted at the site include the manufacturing of mattresses, military hardware, airplane parts, mainframe computers, and automatic teller machines. These activities have historically generated hazardous wastes, including metals (e.g., zinc and chromium), acids, caustics, paints, waste oil, and solvents (e.g., trichloroethylene, tetrachloroethylene, 1,1,1-trichloroethane, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, chloroform, and methylene chloride).
6. Other industries and parties now or formerly occupying properties within the tract that may have contributed to areal soil and groundwater contamination include Calcot, Industrial Waste

Processing Corporation, the Pinedale Solid Waste Disposal Site, the Kepco Dry Dump solid waste disposal site, and the U.S. Army's Camp Pinedale.

7. The Pinedale Groundwater Site (PGS) is defined to encompass the area where constituents of concern, which primarily originated from the Pinedale Industrial Area (PIA), exist in groundwater. The PIA is defined within the PGS as the 375-acre parcel bounded by Ingram, Herndon, and Harrison Avenues and the San Joaquin River Bluffs.
8. The Discharger submitted reports entitled Implementation of A-Zone Groundwater Interim Remedial Measure System (27 May 1992) and Task Work Plan B-Zone Groundwater Interim Remedial Measure (9 July 1992). According to the reports, there are two dissimilar hydrogeologic water-bearing zones in the upper portion of the aquifer, which the reports refer to as the "A-Zone" and "B-Zone." The reports describe the A-Zone as more interbedded and finer grained than the underlying B-Zone. Groundwater in both zones has been polluted by metals and volatile organic compounds (VOCs).
9. On 19 November 1998, the California Environmental Protection Agency (Cal/EPA), Department of Toxic Substances Control (DTSC), approved the Final Remedial Action Plan (hereafter RAP) for PGS, Fresno, California dated 2 November 1998.
10. The RAP partitioned the remediation project into three phases - Phase I, Phase II, and Phase III. The first two phases are complete and Phase III is currently being implemented. Phase III implements an expanded granular activated carbon (GAC) system capable of treating substantially higher flow of groundwater extracted from two extraction wells.
11. The Phase III system has been operational since 13 January 2004. The Phase III GWRS includes: (a) extraction of groundwater from wells E-1B and E-2B only, (b) two 20,000 pound GAC units, and (c) a maximum discharge flow of 2.88 mgd. The GAC units have a reported design flow capacity of 1,100 gpm (1.58 mgd) when operated in series and 2,200 gpm (3.17 mgd) when operated in parallel.
12. Extraction wells E-1B and E-2B are within the PIA and intended to intercept plume migration. Extraction well E-1B is at the intersection of Palm and Locust Avenues with a screened interval from 130 to 160 feet bgs. Well E-2B is at the northeast corner of Palm Bluffs and Beechwood Avenues with a screened interval from 150 to 265 feet bgs.
13. Presently, groundwater in the PIA is monitored semi-annually using a network of 31 monitoring wells. Fifteen monitoring wells are completed in the shallow zone, 125 to 140 feet bgs; fifteen monitoring wells are completed in the intermediate zone, 135 to 170 feet bgs; and one monitoring well is completed in the deep zone below 170 feet. Water levels in the PIA have dropped significantly since the installation of many of the shallow monitoring wells, allowing for samples to be collected intermittently. Metals and organics including the VOCs are continuously monitored in the groundwater through the monitoring and extraction wells.

14. Groundwater from extraction wells E-1B and E-2B is conveyed through two 10-inch pipelines to the two GAC vessels. Treated water from the GAC units is combined in a single iron pipe where it is metered before being discharged to the FID Bullard Canal via Outfall 001. Outfall 001 is near the northwest corner of Ingram and Herndon Avenues and locally is completely underground due to the development of the property. The Bullard Canal is a closed conduit for a good portion of its reach downstream of the discharge. Access to the canal water can only be gained through manholes and vents.
15. The RWD originally proposed to operate the GAC vessels in parallel as extraction rates increase up to 2,000 gpm or 2.88 mgd. A 22 August 2005 letter from the Discharger's consultant, BSK, Inc., stated that the vessels are currently operated in series due to low extraction rates. In the same letter, BSK, Inc. requested to modify the RWD application to reflect the revised flow scheme and reaffirmed its request for a maximum flow limit of 2.88 mgd.
16. Industry standard GAC treatment design provides for two GAC vessels: (a) the first operated in a lead position, and (b) the second operated in a polishing position. The role of the second vessel is to remove any pollutants that may break through the carbon in the first vessel; allowing full use of the first vessel and providing a factor of safety that ensures discharges reliably meet effluent limits.
17. The Discharger has not demonstrated how it will treat flows up to 2.88 mgd. As stated in Finding 11, the GAC vessels have a design flow capacity of 1,100 gpm (1.58 mgd) when operated in series. Operating the GAC vessels in parallel is not consistent with industry standards and is not the best practicable treatment or control (BPTC) as described in Findings 39 and 40. Parallel operation would not provide the safety factor necessary to ensure compliance with effluent limits. It is appropriate to prohibit parallel operation of the two GAC vessels without secondary polishing and to appropriately limit discharge flow until the system can be modified to reflect BPTC.
18. The RWD and monitoring data submitted by the Discharger for the period 1996 through 2005 describes the treated groundwater discharged to Bullard Canal as follows:

<u>Constituent</u>	<u>Units</u>	<u>Daily Maximum</u>
Flow (E-1B)	mgd	0.58
Flow (E-2B)	mgd	1.44
Ammonia	mg/L	Not detected
Benzene	µg/L	<0.5
Boron	mg/L	0.2
Calcium	mg/L	26
Chloride	mg/L	10
Chloroform <sup>1</sup>	µg/L	<0.5
Total Chromium <sup>2</sup>	µg/L	4
Copper <sup>1</sup>	µg/L	<50
Dichlorodifluoromethane <sup>1</sup>	µg/L	<1.0
1,1-Dichloroethane (1,1-DCA) <sup>1</sup>	µg/L	<1.0
1,1-Dichloroethylene (1,1-DCE)	µg/L	<0.5
cis-1,2-Dichloroethylene (cis-1,2-DCE) <sup>1</sup>	µg/L	3.4
1,2-Dichloropropane (1,2-DCP) <sup>1</sup>	µg/L	<0.5

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<u>Constituent</u>	<u>Units</u>	<u>Daily Maximum</u>
Hardness	mg/L	110 <sup>3</sup>
Magnesium	mg/L	16
Methylene Chloride <sup>1</sup>	µg/L	<0.5
Potassium	mg/L	6
Conductivity at 25°C	µmho/cm	400
Sodium	mg/L	31
Sulfate	mg/L	14
TDS	mg/L	300
Tetrachloroethene (PCE) <sup>1</sup>	µg/L	<0.5
trans-1,2 Dichloroethene (trans-1,2-DCE) <sup>1</sup>	µg/L	<0.5
1,1,1-Trichloroethane (1,1,1-TCA) <sup>1</sup>	µg/L	<0.5
Trichlorofluoromethane	µg/L	<0.5
Trichloroethylene (TCE) <sup>1</sup>	µg/L	0.74
Toluene	µg/L	0.73
Zinc <sup>1</sup>	µg/L	<50
pH – maximum	standard unit	8.8
pH - minimum	standard unit	7.1

<sup>1</sup> Effluent Limitation established for this parameter in WDRs Order No. 99-012.

<sup>2</sup> WDRs Order No. 99-012 contained effluent limitations for chromium (III) and chromium (VI).

The Discharger only reported total chromium.

<sup>3</sup> Minimum hardness value reported.

19. The RWD and monitoring data submitted by the Discharger for the period 1996 through 2005 describe the maximum concentrations of constituents reported in untreated pumped groundwater as follows:

<u>Constituent</u>	<u>Units</u>	<u>Maximum Concentration Reported Detected In Groundwater</u>
Benzene	µg/L	0.66
Calcium	mg/L	36
Chloride	mg/L	12
Chloroform <sup>1</sup>	µg/L	<0.5
Total Chromium <sup>2</sup>	µg/L	660
Copper <sup>1</sup>	µg/L	14
Dichlorodifluoromethane <sup>1</sup>	µg/L	1.2
1,1-DCA <sup>1</sup>	µg/L	32
1,1-DCE	µg/L	25
cis-1,2-DCE <sup>1</sup>	µg/L	360
1,2-DCP <sup>1</sup>	µg/L	<0.5
Hardness	mg/L	120 <sup>3</sup>
Magnesium	mg/L	16
Methylene Chloride <sup>1</sup>	µg/L	<400
Potassium	mg/L	6
Conductivity at 25°C	µmho/cm	430
Sodium	mg/L	32
Sulfate	mg/L	14
TDS	mg/L	300
PCE <sup>1</sup>	µg/L	540
trans-1,2-DCE <sup>1</sup>	µg/L	<0.5
1,1,1-TCA <sup>1</sup>	µg/L	0.85

<u>Constituent</u>	<u>Units</u>	Maximum Concentration
		Reported Detected In <u>Groundwater</u>
Trichlorofluoromethane	µg/L	3.5
TCE <sup>1</sup>	µg/L	14,000
Toluene	µg/L	0.73
Zinc <sup>1</sup>	µg/L	130

<sup>1</sup> Effluent Limitation established for this parameter in WDRs Order No. 99-012.

<sup>2</sup> WDRs Order No. 99-012 contained effluent limitations for chromium (III) and chromium (VI).

The Discharger only reported total chromium.

<sup>3</sup> Minimum hardness value reported.

20. Bullard Canal at the point of discharge is within the Tulare Lake Basin and flows seasonally downstream of the discharge point. The Bullard Canal originates where the Enterprise Canal terminates and becomes the Enterprise-Helm Colony and the Bullard Canal. The Enterprise Canal receives surface water from either the Kings River, via the Gould Canal, and/or the San Joaquin River, via the Friant Kern Canal. The Friant Kern Canal originates at Millerton Lake on the San Joaquin River. The Bullard Canal joins the Herndon Canal some distance downstream of the discharge. The Herndon Canal drains excess stormwater to the San Joaquin River roughly nine miles downstream of the discharge point. The canals carry water for irrigation purposes and are owned and operated by the FID. They also carry urban storm runoff and surface waters from ephemeral streams that include Redbank Creek, Fancher Creek, Dog Creek, and Holland Creek. At times, primarily during the fall and winter non-irrigation season, the discharge is the only source of flow in the canals.
21. An agreement between Calcot and the Discharger allows for placement and operation of the pipeline on Calcot property (now Palm Bluffs Corporate Center) connecting the groundwater extraction wells, GAC system, and the discharge point (Outfall 001) to the Bullard Canal. The agreement also allows for continuous access to the monitoring lines for sampling.
22. An agreement exists between the Discharger and the FID to allow the discharge of up to 4.32 mgd of treated groundwater to the Bullard Canal.
23. The *Water Quality Control Plan, Second Edition, for the Tulare Lake Basin* (hereafter Tulare Lake Basin Plan) and the *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (hereafter San Joaquin Basin Plan) (both collectively Basin Plans) designate beneficial uses, establish water quality objectives (WQOs), and contain implementation programs and policies to achieve WQOs for all waters of these basins. The Basin Plans include plans and policies of the State Water Resources Control Board (SWRCB) incorporated by reference, including SWRCB Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California" (hereafter Resolution No. 68-16). Pursuant to Section 13263(a) of the California Water Code (CWC), waste discharge requirements must implement the Basin Plan.
24. The San Joaquin Basin Plan on page II-1.00 states: "Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning..." and with respect to disposal of wastewaters states that "...disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses."

25. As described above, Bullard Canal discharges to the Herndon Canal that drains to the San Joaquin River. The San Joaquin Basin Plan identifies the following beneficial uses for the San Joaquin River at the point the Herndon Canal drains to the river: municipal and domestic supply (MUN), agricultural supply (AGR), industrial process supply (PRO), water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat (WARM), cold freshwater habitat (COLD), warm and cold water fish migration habitat (MIGR), spawning, reproduction, and/or early development (SPWN), and wildlife habitat (WILD). Waters not specifically identified in the Basin Plan are designated as potential municipal and domestic supply; therefore, this designation applies to the Herndon and Bullard Canals. Further, discharges from the groundwater cleanup system to the Bullard Canal and Herndon Canal must be protective of the beneficial uses of the San Joaquin River. Therefore, for purposes of this Order the beneficial uses of the San Joaquin River are considered applicable to the Bullard Canal.
26. Bullard Canal, absent the discharge, may at times be dry. During these periods, the beneficial uses made possible by the discharge must be protected, and no credit for receiving water dilution is available. At other times, other flows within the canal help support beneficial uses. Both conditions may exist within a short time span, where Bullard Canal would be dry without the discharge and periods when sufficient background flows provide hydraulic continuity with the San Joaquin River. Dry conditions may occur throughout the year, particularly in low rainfall years. The lack of dilution results in more stringent effluent limitations to protect contact recreational uses, drinking water standards, agricultural water quality goals and aquatic life. Significant dilution may occur during and immediately following high rainfall events.
27. The designated beneficial uses of the underlying groundwater are MUN, AGR, PRO and industrial service supply (IND). The discharge of treated groundwater is not expected to degrade underlying groundwater.
28. Chapter 4 of the Basin Plans contain a policy for application of WQOs that specifies a method for evaluating the cumulative cancer risk from multiple chemicals found together in water. As of 4 March 2005, the following pollutants that may be present in untreated groundwater and treated groundwater and are considered to be carcinogens as defined by The Safe Drinking Water and Toxic Enforcement Act of 1986:
- Benzene
  - Chloroform
  - Chromium (VI)
  - 1,1-DCE
  - 1,2-DCP
  - Methylene Chloride
  - PCE
  - TCE

According to the Basin Plan, the additive toxicity of the sum of the carcinogenic constituents is determined by dividing the concentration of each carcinogen in the discharge by its toxicological limit. The Basin Plans assume an additive toxicity problem does not exist if the summation of the ratios is less than 1.0. If the summation of the ratios is equal to or greater

than 1.0, the combination of constituents is assumed to present an unacceptable level of toxicologic risk. The Basin Plans describe additive toxicity by the following formula:

$$\sum_{i=1}^n \frac{[\text{Concentration of Toxic Substance}]_i}{[\text{Toxicological Limit for Substance in Water}]_i} < 1.0$$

29. United States Environmental Protection Agency (USEPA) adopted the *National Toxics Rule* (NTR) on 22 December 1992, which was amended on 4 May 1995 and 9 November 1999, and the *California Toxics Rule* (CTR) on 18 May 2000, which was amended on 13 February 2001. These Rules contain water quality standards applicable to this discharge. The SWRCB adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Policy or SIP) on 2 March 2000, which contains policies and procedures for implementation of the NTR and the CTR. The SIP was amended by the State Water Board on 24 February 2005.
30. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard or technology-based standard.
31. The SIP requires the Regional Board to use all available, valid, relevant, representative information to determine whether a discharge may: (a) cause, (b) have a reasonable potential to cause, or (c) contribute to an excursion above any applicable priority pollutant criterion or objective.
32. WQOs applicable to protecting MUN include the narrative WQOs for toxicity, which states, in part, “[a]ll waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal or aquatic life.” The narrative toxicity objective and the MUN beneficial use designation comprise a water quality standard applicable to pollutants in the receiving stream.
33. Chapter IV of the San Joaquin Basin Plan contains the *Policy for Application of Water Quality Objectives*, which provides that “[w]here compliance with narrative objectives is required (i.e., where the objectives are applicable to protect specified beneficial uses), the Regional Board will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives.” The policy further provides that to evaluate compliance with narrative WQOs the Regional Board considers, among other things, “relevant numerical criteria and guidelines developed and/or published by other agencies and organizations (e.g.,... California Office of Environmental Health Hazard Assessment, ...).”
34. Groundwater investigation reports provided as part of Order Nos. 93-018 and 99-012, and information provided by the Discharger for the period of 1996 to early 2005, as shown in Finding 19 of this Order and Table 1 of the Information Sheet, indicate total chromium, copper, dichlorodifluoromethane, 1,1-DCA, 1,1-DCE, cis-1,2-DCE, PCE, trichlorofluoromethane, TCE, and zinc were in concentrations that exceed or threaten to exceed applicable water quality criteria or objectives. The Discharger’s groundwater treatment system and similar systems have

experienced failures or operational errors that have resulted in pass through of untreated or partially treated effluent resulting in exceedances of permit limits. A failure of the groundwater treatment system or operational errors could result in a similar discharge of partially treated or untreated effluent exceeding applicable water quality criteria. Thus, each of these constituents has a reasonable potential to cause or contribute to an excursion above each respective applicable priority pollutant criterion or objective. Water quality-based effluent limitations were developed for each of these pollutants in accordance with the SIP and are shown in Table 4 of the Information Sheet.

35. The SIP Section 1.4 states, in part, “...*calculated water quality based effluent limitations shall be compared to the technology based effluent limitations for the pollutant, and the most protective of the two types of limitations shall be included in the permit.*”
36. The SIP defines Minimum Level (ML) as the concentration at which the entire analytical system must give recognizable signal and calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all method specified sample weights, volumes, and processing steps have been followed. MLs are synonymous to practical quantitation limits (PQLs).
37. The SIP defines Method Detection Limit (MDL) as the concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR 136, Appendix B, revised as of 14 May 1999. MDLs are synonymous to detection limits.
38. The SIP requires the Discharger to report with each sample result the corresponding applicable ML and the laboratory’s current MDL.
39. Clean Water Act (CWA) section 301(b)(1) requires NPDES permits to include effluent limitations that achieve technology-based standards and any more stringent limitations necessary to meet water quality standards. Water quality standards include beneficial uses and narrative and numeric WQOs specific to the beneficial uses as set forth in the Basin Plans, SWRCB adopted standards, and federal standards including NTR and CTR. These standards include the toxicity objective of the Basin Plans and Resolution 68-16. Under the CWA, the applicable technology-based standard is best available control technology (BAT)/best conventional pollutant control technology (BCT). Because there are no promulgated effluent limitations for VOCs in groundwater extracted for cleanup, technology-based limitations are established based upon consideration of the Regional Board staff’s best professional judgment (BPJ). This Regional Board has a long history of regulating cleanup of VOCs in groundwater and has consistently imposed effluent limits at less than the minimum levels (MLs) for VOCs in groundwater. With respect to the specific discharges permitted herein, the following have been considered:
  - a. Appropriate technology for category or class of discharges
  - b. Unique factors relating to the applicant



- c. Age of equipment
- d. Processes employed
- e. Engineering aspects of various control techniques
- f. Non-water quality environmental impacts, including energy requirements
- g. Cost of achieving proposed effluent reduction
- h. Influent, effluent, and receiving water data

A GAC system is an appropriate technology for complete VOC removal from extracted groundwater, and this type of system is currently in place elsewhere in the State. Data submitted by the Discharger shows that the GAC system operated in series can meet the proposed effluent limits set at less than MLs, which supports a conclusion that the limits reflect Best Practicable Treatment and Control (BPTC)/BAT. Additionally, the Discharger must properly operate and maintain its treatment system. As the Discharger is already meeting the proposed effluent limitations with the technology currently employed, continued proper operation and maintenance of the existing treatment system will achieve these effluent limits and not impose additional costs on the Discharger.

- 40. In addition, CWA Section 301 requires implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state law. Applicable state water quality standards include Resolution No. 68-16.
- 41. Resolution No. 68-16 requires implementation of BPTC to ensure that the highest water quality is maintained consistent with the maximum benefit to the people of the State. BPTC is equivalent to BAT and for VOCs provides that the pollutants should be discharged at concentrations no higher than quantifiable levels for each pollutant. For VOCs this Order requires meeting effluent limits set at less than MLs. Several dischargers in the Central Valley Region, including The Vendo Company, have implemented BPTC groundwater treatment systems and have been able to consistently treat VOCs in the wastewater to concentrations below the MLs. The MLs for VOC constituents of concern are listed below:

<u>Constituent</u>	<u>Units</u>	<u>ML</u>
Chloroform	µg/L	0.5 <sup>1</sup>
Dichlorodifluoromethane	µg/L	<sup>3</sup>
1,1-DCA	µg/L	0.5 <sup>1</sup>
1,1-DCE	µg/L	0.5 <sup>1</sup>
cis-1,2-DCE	µg/L	0.5 <sup>2</sup>
1,2-DCP	µg/L	0.5 <sup>1</sup>
Methylene Chloride	µg/L	0.5 <sup>1</sup>
PCE	µg/L	0.5 <sup>1</sup>
trans-1,2-DCE	µg/L	0.5 <sup>1</sup>
1,1,1-TCA	µg/L	0.5 <sup>1</sup>
Trichlorofluoromethane	µg/L	5 <sup>2</sup>
TCE	µg/L	0.5 <sup>1</sup>

<sup>1</sup> SIP, Appendix 4, "SWRCB Minimum Levels in ppb (µg/L)."

<sup>2</sup> Title 22, CCR, Section 64445.1, California Department of Health Services Detection Limits for Purposes of Reporting (DLRs).

<sup>3</sup> No ML or DLR is published for this constituent.

42. To implement the applicable WQOs, the most stringent numerical criteria available should be used to determine water quality based effluent limits (WQBELs) for each pollutant. The criteria used for each pollutant are summarized in Table 3 of the Information Sheet, a part of this Order.
43. The most stringent effluent limits authorized by this Order are:

<u>Constituent</u>	<u>Units</u>	<u>WQBEL Limit<sup>1</sup></u>		<u>TBEL Limit<sup>2</sup></u>		<u>Most Stringent Effluent Limit</u>	
		Daily Maximum	Monthly Average	Daily Maximum		Daily Maximum	Monthly Average
Chloroform	µg/L	2.2	1.1	<0.5		<0.5	n/a <sup>3</sup>
Chromium (III)	µg/L	46	23	-		46	23
Chromium (VI)	µg/L	16	8	-		16	8
Copper	µg/L	1.4	0.7	-		1.4	0.7
Dichlorodifluoromethane	µg/L	0.38	0.19	-		0.38	0.19
1,1-DCA	µg/L	10	5	<0.5		<0.5	n/a <sup>3</sup>
1,1-DCE	µg/L	0.11	0.06	<0.5		0.11	0.06
cis-1,2-DCE	µg/L	12	6	<0.5		<0.5	n/a <sup>3</sup>
1,2-DCP	µg/L	1.1	0.52	<0.5		<0.5	n/a <sup>3</sup>
Methylene Chloride	µg/L	5.0	2.5	<0.5		<0.5	n/a <sup>3</sup>
PCE	µg/L	1.6	0.8	<0.5		<0.5	n/a <sup>3</sup>
trans-1,2-DCE	µg/L	20	10	<0.5		<0.5	n/a <sup>3</sup>
1,1,1-TCA	µg/L	402	200	<0.5		<0.5	n/a <sup>3</sup>
Trichlorofluoromethane	µg/L	0.38	0.19	<0.5		0.38	0.19
TCE	µg/L	5.4	2.7	<0.5		<0.5	n/a <sup>3</sup>
Zinc	µg/L	15	7.6	-		15	7.6

<sup>1</sup> Water Quality Based Effluent Limit.

<sup>2</sup> Technology-based Effluent Limit.

<sup>3</sup> n/a=not applicable.

44. Over the past several years GAC units have consistently removed the pollutants and achieved the proposed effluent limits. The proposed effluent limitations consider the BPJ factors in Finding 39 above, historical performance of the on-site BAT/BPTC systems, receiving water conditions, and USEPA method detection limits, and they are less than or equal to California Primary Maximum Contaminant Levels, CTR and NTR criteria, and limits which implement applicable WQOs.
45. Application of BAT/BCT to achieve the effluent limits will also result in compliance with WQBELs and that is consistent with the requirement of Resolution No. 68-16 that discharges meet BPTC. A possible exception is the WQBEL limits for dichlorodifluoromethane; 1,1-DCE; and trichlorofluoromethane. However, given that the limits for these constituents are below the applicable ML, it is appropriate to assume that a result of less than 0.5 µg/L also represents compliance with the WQBEL and BPTC. The permitted discharge is consistent with the anti-degradation provisions of 40 CFR 131.12 and Resolution No. 68-16. BPTC for cleanup of

groundwater polluted by volatile organic constituents is removal of VOCs to a level at or below corresponding analytical quantitation limits. Some resulting degradation of the receiving water could occur if VOCs were present at concentrations below the quantitation limit, but such degradation would not be quantifiable. The Discharger has not submitted an analysis to the Regional Board demonstrating that degradation resulting from discharges of VOCs at concentrations in excess of quantifiable levels would be consistent with the maximum benefit of the people of the state and Resolution No. 68-16. Due to the relatively low conductivity and TDS values of the receiving water, during periods of limited or no dilution, some degradation of the receiving water may occur from these pollutants, however, the discharge will not cause an exceedance of WQOs or cause a significant impact on the beneficial uses of groundwater and surface water. The continued remediation of polluted groundwater and the use of the treated groundwater for irrigation via the Bullard Canal both benefit the people of the state.

46. According to the SIP, if no ML value is below the effluent limitation, the applicable ML value shall be the lowest ML value listed in Appendix 4 of the SIP. VOC concentrations below the MLs are generally considered unquantifiable. Therefore, application of WQBELs for these constituents requires effluent to meet MLs.
47. Order No. 99-012 established a technology-based effluent limit monthly median limit of less than 0.5 µg/L and a daily maximum limit of 5 µg/L for volatile organics 1,1-DCA, cis-1,2-DCE, PCE, 1,1,1-TCA, and TCE. Based on monitoring data submitted by the Discharger between 1996 and 2005, these constituents have been either reported in detectable concentrations in the groundwater or effluent that exceeded water quality criteria, or were analyzed by methodologies with MDLs that exceed MLs. Because these constituents were either in detectable concentrations or maximum concentrations that could not be adequately evaluated due to high MDLs, technology-based effluent limitations are established in this Order.
48. Order No. 99-012 established a technology-based effluent limit monthly median limit of less than 0.5 µg/L and a daily maximum limit of 5 µg/L for volatile organics chloroform; 1,2-DCP; methylene chloride; and trans-1,2-DCE that were either not reported in detectable concentrations in the groundwater or effluent, or were analyzed by methodologies with MDLs that exceed MLs. Because these constituents could be present in groundwater or in the effluent, this Order includes technology-based effluent limits for these constituents.
49. **Flow**— Order No. 99-012 limited effluent flow to 1.44 mgd but included a provision that allowed a maximum flow of 2.5 mgd when the new GWRS system in Phase III was operational with the approval of the Executive Officer. Phase III was implemented on January 2004; however, the Discharger has not demonstrated how it will implement BPTC to treat flows up to 2.88 mgd. Therefore, this Order establishes a maximum flow of 1.44 mgd until such time as the GWRS GAC units are modified to reflect BPTC. Following satisfaction of Provision F.6, the discharge flow may be increased to 2.88 mgd.
50. **Chromium (III)**— Order No. 99-012 established a variable WQBEL for chromium (III) based on the hardness values of either the effluent or receiving water, whichever is less, but no less than 25 mg/L as CaCO<sub>3</sub>. During the term of Order No. 99-012, the Discharger failed to monitor and provide effluent and receiving water data for chromium (III). This Order carries forward the

WQBEL for chromium (III) as a fixed limitation. The Discharger reported hardness concentrations for the effluent and receiving water. The most stringent hardness concentration was 8.8 mg/L as  $\text{CaCO}_3$  in the receiving water; therefore, based on the SIP, a hardness of 8.8 mg/L was used to calculate the effluent limitations for chromium (III) in this Order. The CTR includes acute and chronic water quality criteria for chromium (III) for the protection of freshwater aquatic life. Using a hardness of 8.8 mg/L, the acute and chronic criteria for total chromium (III) are 237  $\mu\text{g/L}$  and 28  $\mu\text{g/L}$ , respectively. Based on information provided by the Discharger, the maximum reported concentration of total dissolved chromium was 660  $\mu\text{g/L}$ . The presence of chromium in the groundwater presents a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for chromium (III). WQBELs for chromium (III) for the protection of aquatic life have been established in this Order.

51. **Chromium (VI)**— Order No. 99-012 established effluent limitations for chromium (VI) that were expressed as 1-hour average concentration, and 4-day average concentration. These limits were developed by setting them equal to the proposed CTR water quality criteria. These limits were developed prior to the final promulgation of the CTR criteria and the adoption and implementation of the SIP. According to the SIP, effluent limits for CTR pollutants are to be expressed as a monthly average and as a maximum and may be calculated using the CTR criteria. During the term of Order No. 99-012 the Discharger failed to monitor and provide effluent and receiving water data for chromium (VI). CTR includes acute and chronic water quality criteria for chromium (VI) of 16  $\mu\text{g/L}$  and 11  $\mu\text{g/L}$ , respectively, for the protection of freshwater aquatic life. Based on information provided by the Discharger, the maximum reported concentration of total dissolved chromium was 660  $\mu\text{g/L}$ . The presence of chromium in the groundwater presents a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for chromium (VI). This Order carries forward the WQBELs for chromium (VI) expressed in accordance with the methodology and terminology established in the in SIP for developing WQBELs. WQBELs for chromium (VI) for the protection of aquatic life have been established in this Order.
52. **Copper**— Order No. 99-012 established a variable WQBEL for copper based on the hardness values of either the effluent or receiving water, whichever was less, but no less than 25 mg/L as  $\text{CaCO}_3$ . This Order carries forward the WQBEL for copper as a fixed limitation. The Discharger reported hardness concentrations for the effluent and receiving water. The most stringent hardness concentration was 8.8 mg/L as  $\text{CaCO}_3$  in the receiving water; therefore, based on the SIP, a hardness of 8.8 mg/L was used to calculate the effluent limitations for copper in this Order. CTR includes acute and chronic water quality criteria for copper for the protection of freshwater aquatic life. Using a hardness of 8.8 mg/L, the acute and chronic criteria for copper are 1.4  $\mu\text{g/L}$  and 1.2  $\mu\text{g/L}$ , respectively. Based on information provided by the Discharger, the maximum reported concentration of copper was 14  $\mu\text{g/L}$  in the groundwater, a concentration that presents a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for copper. WQBELs for copper for the protection of aquatic life have been established in this Order.
53. **Dichlorodifluoromethane**— Order No. 99-012 established a technology-based effluent limit monthly median limit of less than 0.5  $\mu\text{g/L}$  and a daily maximum limit of 5  $\mu\text{g/L}$  for

dichlorodifluoromethane. USEPA established a national recommended ambient water quality criterion for human health and welfare based on a one-in-a-million cancer risk for sources of drinking water for the ingestion of water and organisms of 0.19 µg/L. Based on information provided by the Discharger the maximum detected concentration of dichlorodifluoromethane was 1.2 µg/L. The discharge has reasonable potential to cause or threaten to cause an exceedance of water quality criteria based on the protection of human health. Using the methodology in the SIP, WQBELs for dichlorodifluoromethane have been established in this Order.

54. **1,1-DCE**— Based on monitoring data submitted by the Discharger, 1,1-DCE was reported in detectable concentrations with a maximum treated groundwater effluent concentration reported as 1.3 µg/L. The maximum reported concentration for 1,1-DCE in untreated groundwater reported by the Discharger is 25 µg/L. The CTR establishes criteria for the protection of human health based on a one-in-a-million cancer risk for 1,1-DCE. MUN is a beneficial use of the receiving stream. The CTR criteria for consumption for water and organisms and organisms only are 0.057 µg/L and 3.2 µg/L, respectively. The discharge has reasonable potential to cause or threaten to cause an exceedance of water quality criteria based on the protection of human health. In accordance with the SIP, WQBELs for 1,1-DCE have been established in this Order.
55. **Trichlorofluoromethane**— Based on monitoring data submitted by the Discharger, trichlorofluoromethane was reported in detectable concentrations with a maximum untreated groundwater concentration reported as 3.5 µg/L. USEPA established a national recommended ambient water quality criterion for human health and welfare based on a one-in-a-million cancer risk for sources of drinking water for the ingestion of water and organisms of 0.19 µg/L. The discharge has reasonable potential to cause or threaten to cause an exceedance of water quality criteria based on the protection of human health. Using the methodology in the SIP, WQBELs for trichlorofluoromethane have been established in this Order.
56. **Zinc**— Order No. 99-012 established a variable WQBEL for zinc based on the hardness values of either the effluent or receiving water, whichever is less, but no less than 25 mg/L as CaCO<sub>3</sub>. This Order carries forward the WQBEL for zinc as a fixed limitation. The Discharger reported hardness concentrations for the effluent and receiving water. The most stringent hardness concentration was 8.8 mg/L as CaCO<sub>3</sub> in the receiving water; therefore, based on the SIP, a hardness of 8.8 mg/L was used to calculate the effluent limitations for zinc in this Order. CTR includes acute and chronic water quality criteria for zinc for the protection of freshwater aquatic life. Using a hardness of 8.8 mg/L, the acute and chronic criteria for zinc are 15.3 µg/L and 15.3 µg/L, respectively. Based on information provided by the Discharger, the maximum reported concentration of zinc was 130 µg/L in the groundwater, a concentration that presents a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for copper. WQBELs for zinc for the protection of aquatic life have been established in this Order.
57. **Other VOCs**— Order No. 99-012 established a technology-based maximum daily effluent limitation for other VOCs that have not been specifically identified in this Order. As described in Finding 39, this Regional Board has historically established technology-based limits of VOCs

for GWRS at less than MLs for the VOC. Therefore, this Order carries forward the technology-based limitations for other VOCs.

58. **Total VOCs**— Order No. 99-012 established a technology-based maximum daily effluent limitation for total VOCs of not to exceed 5 µg/L. As described in Finding 39, this Regional Board has historically established technology-based limits of VOCs for GWRS at less than MLs for VOCs. The Basin Plans include a narrative WQO that states that “[a]ll waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” Allowing a discharge of VOCs up to 5 µg/L may result in the discharge exceeding applicable water quality criteria. To protect the beneficial use of the receiving water from the cumulative effect of multiple VOCs the maximum daily effluent limitation for total VOCs not to exceed 5 µg/L has been revised to less than 0.5 µg/L.
59. Section 303(a-c) of the CWA, required states to adopt numeric criteria where necessary to protect designated uses. This Regional Board adopted numeric criteria in the Basin Plans. The Basin Plans are a regulatory reference for meeting the state and federal requirements for water quality control (40 CFR 131.20). Resolution No. 68-16 does not allow changes in water quality less than that prescribed in Basin Plans. The San Joaquin Basin Plan states: *“The numerical and narrative water quality objectives define the least stringent standards that the Regional Board will apply to regional waters in order to protect the beneficial uses.”* This Order contains Receiving Water Limitations for Biostimulatory Substances, Chemical Constituents, Color, Dissolved Oxygen, Floating Material, Oil and Grease, pH, Pesticides, Radioactivity, Salinity, Sediment, Settleable Material, Suspended Material, Tastes and Odors, Temperature, Toxicity and Turbidity based on numerical and narrative WQOs in the Basin Plans.
60. The Discharger was issued a letter on 27 February 2001, pursuant to CWC Section 13267, requiring effluent and receiving water monitoring meeting the requirements of the SIP. These data were required to perform reasonable potential analyses (RPAs). The Discharger did not submit effluent and receiving water monitoring data as required by the 27 February 2001 letter, and a RPA for CTR constituents is not possible.
61. To gather the information necessary to conduct an RPA for CTR constituents, it is appropriate to require the Discharger to:
- a. Provide information regarding the levels of NTR and CTR constituents in the discharge.
  - b. Conduct an RPA for detected constituents, and
  - c. Calculate effluent limitations for constituents showing reasonable potential to cause or contribute to an in-stream excursion above a water quality standard, including Basin Plan numeric and narrative objectives and NTR and CTR criteria.

The Regional Board may then need to reopen this Order and include effluent limitations for constituents showing reasonable potential.

62. The Discharger has not provided sufficient data for non-priority pollutants for the Regional Board to determine reasonable potential for these constituents to cause or threaten to cause an exceedance of water quality standards. This Order requires the Discharger to monitor for these constituents.
63. The additional data points for CTR and non-CTR pollutants will be used to perform an RPA. Upon completion of the analysis, if it is found that a pollutant has a reasonable potential to cause or contribute to an excursion of applicable water quality standards, then this Order may be reopened and specific effluent and/or receiving water limitations may be added.
64. Section 13267 of the CWC states, in part, “(a) A regional board, in establishing... waste discharge requirements... may investigate the quality of any waters of the state within its region” and “(b) (1) In conducting an investigation..., the regional board may require that any person who... discharges... waste... that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.” The attached Monitoring and Reporting Program is issued pursuant to CWC Sections 13267 and 13383. The attached Monitoring and Reporting Program in this Order is necessary to assure compliance with these waste discharge requirements. The Vendo Company is responsible for the discharges of waste at the facility subject to this Order.
65. If other constituents of concern are identified as being present or potentially being present in groundwater discharged under this Order, then this Order may be reopened and effluent limits and receiving water limitations may be established for those constituents.
66. All of the above and the supplemented data and information and details in the attached Information Sheet and attachments, which are incorporated by reference herein, were considered in establishing conditions of discharge.
67. USEPA and the Regional Board have classified this discharge as a minor discharge.
68. Effluent limitations, and toxic and pretreatment effluent standards established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards) of the CWA and amendments thereto are applicable to the discharge.
69. The action to renew an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et seq.), in accordance with Section 13389 of the CWC.

70. The Discharger and interested agencies and persons were notified of the intent to prescribe waste discharge requirements for this discharge and provided with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
71. In a public meeting, all comments pertaining to the discharge were heard and considered.
72. This Order shall serve as an NPDES permit pursuant to Section 402 of the CWA, and amendments thereto, and shall take effect upon the date of hearing, provided USEPA has no objections.

**IT IS HEREBY ORDERED** pursuant to CWC Sections 13263, 13267, 13377, and 13383 that Order No. 99-012 is rescinded and The Vendo Company, its agents, successors and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted there under, shall comply with the following:

**A. Discharge Prohibitions:**

1. Discharge of material other than treated groundwater from the investigation and cleanup of groundwater pollution, or discharge of treated groundwater from the investigation of groundwater where other pollutants exist in the groundwater, or in a manner different from that described in the Findings, is prohibited.
2. The bypass or overflow of untreated or partially treated groundwater, including polluted purge water, is prohibited.
3. Discharge of waste classified as 'hazardous' as defined in Section 2521(a) of Title 23, CCR, Section 2510, et seq., or 'designated', as defined in Section 13173 of the CWC, is prohibited.
4. Discharge of wastewater or pollutants not passing through at least two GAC vessels operated in series is prohibited.

**B. Effluent Limitations: Outfall 001**

1. The maximum daily discharge to Outfall 001 shall not exceed 1.44 mgd. If Provision F.6 is satisfied, the discharge shall not exceed 2.88 mgd.
2. Effluent discharged from Outfall 001 shall not exceed the following limits:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
Chloroform	µg/L		<0.5
Chromium (III) (total recoverable)	µg/L	23	46



<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
	lbs/day <sub>1</sub>	0.28	0.55
	lbs/day <sub>2</sub>	0.55	1.11
Chromium (VI) (total recoverable)	µg/L	8	16
	lbs/day <sub>1</sub>	0.1	0.19
	lbs/day <sub>2</sub>	0.19	0.38
Copper (total recoverable)	µg/L	0.7	1.4
	lbs/day <sub>1</sub>	0.01	0.02
	lbs/day <sub>2</sub>	0.02	0.03
Dichlorodifluoromethane	µg/L	0.19 <sup>3</sup>	0.38 <sup>3</sup>
1,1-DCA	µg/L		<0.5
1,1-DCE	µg/L	0.06 <sup>3</sup>	0.11 <sup>3</sup>
Cis-1,2-DCE	µg/L		<0.5
1,2-DCP	µg/L		<0.5
Methylene Chloride	µg/L		<0.5
PCE	µg/L		<0.5
Trans-1,2-DCE	µg/L		<0.5
1,1,1-TCA	µg/L		<0.5
Trichlorofluoromethane	µg/L	0.19 <sup>3</sup>	0.38 <sup>3</sup>
TCE	µg/L		<0.5
Zinc (total recoverable)	µg/L	7.6	15
	lbs/day <sub>1</sub>	0.09	0.18
	lbs/day <sub>2</sub>	0.18	0.36
Other VOCs <sup>4</sup>	µg/L		<0.5

<sup>1</sup> Based on a maximum flow of 1.44 mgd.

<sup>2</sup> Based on a maximum flow of 2.88 mgd.

<sup>3</sup> If approved ML is greater than Effluent Limit, then compliance is met if concentration is below the ML.

<sup>4</sup> Other volatile organic compounds.

- The sum of the concentrations of the VOC constituents listed in Effluent Limitation B.2, above, in any single sample of the discharge shall be less than 0.5 µg/L.
- The discharge shall not have a pH less than 6.5 nor greater than 8.5.

5. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay ----- 70%

Median for any three or more consecutive bioassays-----90%

**C. Waste and Solids Disposal:**

1. Spent carbon and other residual solids removed from liquid wastes or used to treat liquid wastes shall either be recycled or disposed of in a manner that is consistent with CCR Title 27, Division 3; Title 23, Division 3, Chapter 15; and Title 22, Division 4.5, and as approved by the Executive Officer.
2. Any proposed change in filter waste use or solids disposal practice from a previously approved practice shall be reported to the Executive Officer and USEPA Regional Administrator at least 90 days in advance of the change.

**D. Receiving Water Limitations:**

Receiving water limitations for the Bullard Canal are based on maintaining WQOs contained in the Basin Plans for Bullard Canal and the San Joaquin River. As such, they are a required part of this permit.

The discharge, alone or in combination with other sources, shall not cause the following in the Bullard Canal:

1. Bacteria: The fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.
2. Dissolved Oxygen: Discharge shall not cause the concentrations of dissolved oxygen to fall below 7.0 mg/L.
3. Oil and Grease: Oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the water surface or on objects in the water, or otherwise adversely affect beneficial uses.
4. Color: Discoloration that causes nuisance or adversely affects beneficial uses.
5. pH: The ambient pH to be depressed below 6.5, nor raised above 8.5, nor changes in normal ambient pH levels to be exceeded by more than 0.5 units.
6. Temperature: The natural receiving water temperature to increase more than 5°F.

7. Setteable Matter: Substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
8. Radioactivity: Radionuclides to be present in concentrations that are harmful to human, plant, animal or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal or aquatic life.  
  
Concentrations of radionuclides in excess of the maximum contaminant levels (MCLs) specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations.
9. Toxicity: Toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.
10. Biostimulatory Substances: Biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
11. Floating Material: Floating material in amounts that cause nuisance or adversely affect beneficial uses.
12. Sediment: Suspended sediment load and suspended sediment discharge rate altered in such a manner to cause nuisance or adversely affect beneficial uses.
13. Suspended Material: Suspended material concentrations that cause nuisance or adversely affect beneficial uses.
14. Taste and Odor: Taste or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to cause nuisance or adversely affect beneficial uses.
15. Chemical constituents: Chemical constituents in concentrations that adversely affect beneficial uses.
16. Turbidity: Changes in turbidity that cause nuisance or adversely affect beneficial uses. Turbidity attributable to controllable water quality factors to exceed the following:
  - a. More than 1 Nephelometric Turbidity Units (NTUs) where natural turbidity is between 0 and 5 NTUs.
  - b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
  - c. More than 10 NTUs where natural turbidity is between 50 and 100 NTUs.
  - d. More than 10 percent where natural turbidity is greater than 100 NTUs.

17. Pesticides<sup>1</sup>:
- a. Pesticides in individual or combined concentrations that adversely affect beneficial uses.
  - b. Pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses.
  - c. Total identifiable persistent chlorinated hydrocarbon pesticides in concentrations detectable within the accuracy of analytical methods approved by the USEPA or the Executive Officer.
  - d. Concentrations exceeding those allowable by applicable antidegradation policies (see Resolution No. 68-16 and 40 CFR Section 131.12.)
  - e. Concentrations exceeding the lowest levels technically and economically achievable.
  - f. Concentrations exceeding the MCLs set forth in CCR Title 22, Division 4, Chapter 15.
  - g. Concentrations of thiobencarb in excess of 1.0 mg/L.
18. Violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the SWRCB to implement the CWA and regulations adopted there under.

**E. Groundwater Limitations:**

The discharge shall not adversely alter the physical properties of or the concentration of any constituent in underlying groundwater, as determined by comparison to the quality of groundwater in an area unaffected by any past or present discharge of pollutants, and shall not cause or contribute to the violation of any Basin Plan narrative or numeric water quality objective.

**F. Provisions:**

1. The Discharger shall comply with all the items of the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)", dated 1 February 2004, which is part of this Order.

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<sup>1</sup> The term pesticide shall include: (1) any substance, or mixture of substances which is intended to be used for defoliating plants, regulating plant growth, or for preventing, destroying, repelling, or mitigating any pest, which may infest or be detrimental to vegetation, man, animals, or households, or be present in any agricultural or nonagricultural environment whatsoever, or (2) any spray adjuvant, or (3) any breakdown products of these materials that threaten beneficial uses. Note that discharges of "inert" ingredients included in pesticide formulations must comply with all applicable water quality objectives.

2. The Discharger shall comply with Monitoring and Reporting Program No. \_\_\_\_\_, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.

When requested by USEPA, the Discharger shall complete and submit Discharge Monitoring Reports. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharger Self Monitoring Reports.

3. This Order merely sets conditions for discharge to the Bullard Canal. This Order does not grant privilege to use the subject canal.
4. The Discharger shall conduct the chronic toxicity testing specified in the Monitoring and Reporting Program. If the testing indicates that the discharge causes, contributes to, or has the reasonable potential to cause or contribute to an in-stream excursion above the WQO for toxicity, the Discharger shall initiate a Toxicity Identification Evaluation (TIE) to identify the causes of toxicity. Upon implementation of the TIE, the Discharger shall submit a workplan to conduct a Toxicity Reduction Evaluation (TRE) and upon Executive Officer approval conduct the TRE. If necessary, this Order will be reopened and a chronic toxicity limitation included and/or a limitation for the specific toxicant identified in the TRE included. The results shall conform to Provision F.14. Additionally, if the SWRCB adopts a chronic toxicity WQO, this Order may be reopened to include an effluent limitation based on that objective.
5. The Discharger shall provide a technical report describing the methods it will use to: provide the priority pollutant and non-CTR constituent monitoring required by CWC Section 13267 Order dated 27 February 2001 described in Finding No. 60; conduct an RPA consistent with the methodology in the SIP for all detected pollutants; and calculate proposed effluent limits for all constituents showing the reasonable potential to cause or contribute to an exceedance of a WQO in Bullard Canal. The technical report shall include a work plan and implementation schedule. The work plan and implementation schedule are subject to EO approval. Provision F.14 requirements apply to this technical report.

<u>Task</u>	<u>Compliance Date</u>
a. Submit the technical report including a work plan and implementation schedule to complete the Priority Pollutant Evaluation described above.	<b>13 March 2006</b>
b. Begin to implement approved work plan	<b>30 days following EO written approval of task 3.a.</b>
c. Submit written status report.	<b>7 months following completion of task 3.b</b>

<u>Task</u>	<u>Compliance Date</u>
d. Complete implementation of approved work plan and submit in a written technical report proposed effluent limits for CTR constituents.	<b>27 March 2007</b>

The above compliance schedule does not supersede that in the 13267 Order for the purpose of calculating potential administrative civil liability, should assessment become necessary.

6. At least **90 days** prior to the proposed increase in discharge from the GWRS from 1.44 mgd to 2.88 mgd, the Discharger shall submit a technical report describing in detail the additional equipment to be installed to provide redundant treatment units to meet industry standards, to effect BPTC, and to ensure the GWRS will have a reliable treatment capacity at 2.88 mgd. The technical report and time schedule are subject to Executive Officer approval. The technical report shall conform to Provision F.14.
7. The Discharger must utilize USEPA test methods and detection limits to achieve detection levels below applicable water quality criteria. At a minimum the Discharger shall comply with the Monitoring Requirements for these constituents as outlined in Section 2.3 and 2.4 of the SIP, adopted 2 March 2000 by the SWRCB, and report all peaks identified by the USEPA test methods.
8. **By 27 February 2006**, the Discharger shall develop or review and revise the existing operation and maintenance plan (O&M Plan) to ensure full compliance with the conditions and requirements set forth in this Order. The O&M Plan shall instruct operating personnel on how to manage the day-to-day discharge operation to comply with the terms and conditions of this order. The O&M Plan shall also detail how frequently each GAC unit is serviced and also describe how valves and plumbing are clearly labeled to ensure proper operation of the GWRS by operating personnel. The O&M Plan shall also include details for the following aspects of the proposed sampling process for monitoring influent, effluent, mid-treatment, and groundwater:
  - a. Method Summary (must be USEPA approved method and capable of quantifying analytes to levels at or below those specified in Effluent Limitations and Receiving Water Limitations, above);
  - b. Proposed list of analytes;
  - c. Sample preservation, containers, handling, and storage;
  - d. Interferences and potential problems;
  - e. Sampling and analysis equipment/apparatus;
  - f. Reagents;
  - g. Preparation and sample collection procedures;
  - h. Quality assurance and quality control;
  - i. Well purging;
  - j. Filtering; and
  - k. Health and Safety.

- The O&M Plan must be submitted to the Regional Board, **by 13 March 2006**, for Executive Officer approval. A copy of the O&M Plan shall be kept at the GWRS office for reference by operating personnel. Key operating personnel shall be familiar with its contents. The O&M Plan shall conform to Provision F.14.
9. If it is determined that specific pollutants in the discharge have a reasonable potential to cause or contribute to an exceedance of a WQO or promulgated water quality criterion, this Order will be reopened for consideration of additional or revision of appropriate numerical effluent or receiving water limitations for the problem constituents.
  10. This Order may be reopened and modified to make it consistent with any Basin Plans amendments that are adopted regarding the Regional Board's policy on Effluent Dominated Water Bodies (EDWs).
  11. The Discharger shall employ BPTC of the discharge, including proper operation and maintenance, to comply with this Order.
  12. The Board may modify or reopen this Order prior to its expiration date in any of the following circumstances:
    - a. If present or future investigations demonstrate that the discharge governed by this Order has a reasonable potential to cause or contribute to adverse impacts on water quality and/or beneficial uses of the receiving waters;
    - b. New or revised WQOs come into effect for the receiving water. In such cases, effluent limitations in this Order will be modified as necessary to reflect updated WQOs. Adoption of effluent limitations contained in this Order is not intended to restrict in any way future modifications based on legally adopted WQOs or as otherwise permitted under federal regulations governing NPDES permit modifications;
    - c. If translator or other water quality studies provide a basis for determining that a permit condition(s) should be modified. The Discharger may request permit modification on this basis. The Discharger shall include in any such request an antidegradation and antibacksliding analysis.
    - d. If new regulations or information becomes available. The Regional Board may consider inclusion of a compliance time schedule within the bounds of the applicable regulation if the Discharger is not able to meet a new more stringent discharge requirement immediately.
  13. This Order does not pre-empt or supersede the authority of local agencies to prohibit, restrict, or control the discharge of groundwater cleanup wastewater subject to their control. Discharges allowed by this order to local irrigation or storm water collection and

- conveyance facilities must obtain approval from the agency responsible for operation and maintenance of the facilities.
14. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1. To demonstrate compliance with sections 415 and 3065 of Title 16, CCR, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional(s) responsible for the work.
  15. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
  16. A copy of this Order shall be kept at the site for reference by personnel operating the ground water treatment system. Key operating personnel shall be familiar with its contents.
  17. Exceedances of monthly average and daily maximum effluent limitations based on results of a single sampling event may be considered violations of the requirements of this Order. The Discharger may sample more frequently than required by the attached Monitoring and Reporting Program to provide a more representative database and possibly lower reported average constituent values to demonstrate compliance with effluent limitations.
  18. Prior to making any change in the discharge point, place of use, or purpose of use of the wastewater, the Discharger shall obtain approval of, or clearance from, the SWRCB (Division of Water Rights).
  19. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Regional Board and a statement. The statement shall comply with the signatory paragraph of



WASTE DISCHARGE REQUIREMENTS ORDER NO. \_\_\_\_\_  
THE VENDO COMPANY  
GROUNDWATER REMEDIATION SYSTEM  
FRESNO COUNTY

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Standard Provision D.6 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the CWC. Transfer shall be approved or disapproved in writing by the Executive Officer.

20. This Order expires on **27 January 2011** and the Discharger must file a RWD in accordance with 23 CCR, not later than 180 days in advance of such date in application for renewal of waste discharge requirements if it wishes to continue the discharge.

I, KENNETH D. LANDAU, Acting Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on \_\_\_\_\_.

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KENNETH D. LANDAU, Acting Executive

Officer

MSS: 12/10/05